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Translational Pathology and the Understanding of Disease

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Translational Pathology and the Understanding of Disease

Celebration of 125 years

It is the 125th anniversary of the inception of *The Journal of Pathology and Bacteriology*. Although founded in 1892, the first issue of the Journal was published with a cover date of 1893 and we are therefore taking the liberty of celebrating this event over two years! Readers may have noticed that our recent paper issues have featured the banner 'Publishing since 1892: 125 years of research excellence'; and this editorial is timed to coincide with the mid-point of the anniversary period. The Journal was originally published as *The Journal of Pathology and Bacteriology* and this broad scope endured until 1969, when microbiology content was moved to *The Journal of Medical Microbiology* [1]. Further focus was provided by the introduction in 2001 of our current strapline 'Understanding Disease', which is aligned to the mission of the Pathological Society [2], 'Understanding Disease – Guiding Therapy'. The latter is also the focus of our companion journal *The Journal of Pathology: Clinical Research* [3].

With recent technological advances, in particular massively parallel sequencing and other high throughput technologies, it is timely to re-consider how tissue-based studies inform our understanding of disease. For example, massively parallel sequencing analysis of human cancers and cancer models transformed our understanding of the genetic and epigenetic basis of human diseases, has identified numerous genotypic-phenotypic correlations and pathognomonic genetic alterations in rare tumour types, and is enabling the potential of precision medicine to be realised. This transformative effect has now been documented in the context of clinical trials, where massively parallel sequencing technologies have enabled investigators to understand the molecular and mechanistic basis of unexpected dramatic responses to specific therapeutic agents, the so-called 'extreme outliers'. Moreover, the careful analysis of pathology samples in conjunction with diligent use of massively parallel sequencing methods has brought to the forefront of cancer research the challenges posed by intra-tumour heterogeneity for the diagnosis and genetic characterization of the repertoire of genetic and epigenetic alterations in human cancers, and for the development and validation of biomarkers. Undoubtedly, the unprecedented pace of technological development for the molecular characterization of pathology specimens and the development of robust computational biology approaches to interpret the enormous amounts of data generated provide a unique opportunity to further our understanding of the pathophysiological and pathogenetic mechanisms of human disease.

Annual Review Issue 2018 – Molecular Pathology of Cancer

The publication of themed Annual Review Issues has been a significant and highly successful feature of *The Journal of Pathology* since 1999. To reflect the focus of the journal on understanding disease, coupled with recent advances in technologies applicable to the investigation of disease mechanisms, the 2018 Annual Review Issue, Guest Edited by David Huntsman and Marc Ladanyi, will feature articles addressing the contribution of translational studies to new concepts in, and site-specific understanding of, cancer. The issue is scheduled for publication in April 2018 and the articles will signpost the Journal's interest in studies that address important questions in the pathobiology of disease.

Call for Papers

With our focus on translational studies that improve understanding of disease mechanisms and behaviour, *The Journal of Pathology* is ideally placed to publish your primary research that provides novel insights into the genetic and epigenetic basis of human diseases, including:

- the identification of novel genotypic-phenotypic associations and pathognomonic genetic alterations;
- the characterization of patterns of genetic instability, mutational and rearrangement signatures in human cancers and their impact on the pathobiology of the disease;
- intra-tumour genetic and epigenetic heterogeneity, and approaches to address the challenges posed by this biological phenomenon;
- detailed molecular analyses of mechanisms of response and resistance to therapeutic agents identified by massively parallel sequencing.

Such submissions should report studies that address important questions in the pathobiology of disease, particularly those that use massively parallel sequencing technology. Manuscripts should ideally offer clinically relevant findings and/or functional insights with validation. Timely reviews and perspectives would also be considered.

Correctly formatted manuscripts will be fast-tracked and expertly peer-reviewed, aiming for a final decision within 10 working days. We would anticipate that initial online publication would occur within 7 days of acceptance. Once published, each article will be made free

to view online for 6 months, facilitating dissemination within the community.

In your covering letter, please mention that the submission is a response to the “translational pathology and precision medicine call”. Please note that any massively parallel sequencing data included in the manuscript must be made publicly available by the time of publication, and full details of the analysis methods should be provided either in the main manuscript or as supplementary methods.

We look forward to receiving your manuscript via <http://mc.manuscriptcentral.com/jpath>

1 Herrington CS. The Journal of Pathology (and Bacteriology): Past, Present and Future. In: Hall

PA, Wright NA (eds) *Understanding Disease: A Centenary Celebration of the Pathological Society of Great Britain and Ireland*, John Wiley and Sons, Chichester, 2006, 97–108. Available free online at [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1096-9896/homepage/History_of_the_Journal.pdf](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1096-9896/homepage/History_of_the_Journal.pdf)

2 The Pathological Society of Great Britain and Ireland – <http://www.pathsoc.org>

3 The Journal of Pathology: Clinical Research - [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2056-4538](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2056-4538)